NBC-TV     7:00 P.M.

## Arms Control Verification

BROKAW: On Special Segment tonight, Verification: The countdown to Geneva. It's a key word in every arms control negotiation. In plain language, it means knowing whether the other side cheats.

NBC News Pentagon correspondent Fred Francis reports that with secret, high-technology spying, we know almost everything that the Soviet Union does.

FRED FRANCIS: The SR-71, the Blackbird, the fastest, highest-flying airplane in the world, with a set of cameras that can record photographic, infrared, and radar images.

And here, hidden in the Northern Virginia woods 15 miles south of the White House, a secret satellite ground station that receives a continuous stream of photographs from space.

And in Groton, Connecticut, Sturgeon Class submarines prepare for classified missions near Soviet naval bases. There they will take periscope photographs and record the sounds of Soviet subs.

And in the Great Smoky Mountains of North Carolina, another secret base that, among other things, monitors Soviet naval communications down to the walkie-talkie level.

Together, at ten billion dollars a year, it's a dizzying array of airplanes, submarines, satellites and radar, all making sure the Soviets keep their treaty commitments.

Mostly, though, we rely on photographs. Twenty-two times a day a Keyhole 11 photo-reconnaissance satellite scans the Soviet Union. In a few hours its pictures can be flashed onto a screen at the Pentagon or put on the President's desk. They are computer-generated pictures of remarkable clarity, detailed enough to examine a tank, as in this simulation.

JOHN PIKE: You'd be able to spot something about the size of a grapefruit or a softball from an altitude of perhaps 80 or 100 miles.

FRANCIS: Only a handful of these satellite photos have ever been made public. This one of a Soviet aircraft carrier was taken from a slant angle 504 miles to the south of the shipyard.

WILLIAM COLBY: We don't trust them any more than you'd trust a secondhand car dealer. You watch it like a hawk. You do your own inspections. You check it over very carefully.

FRANCIS: Carefully means using more than photographs. When photo satellites detect Soviet launch preparation, that word is relayed to the National Security Agency outside Washington. It alerts listening posts around the world.

Above the Soviet Union, satellites aim their sensors. In Turkey, the Air Force eavesdrops on the countdown. And around the Pacific, electronic equipment on remote islands, aboard converted 707s, and on a tracking ship await the splashdown, all recording electronic information.

JEFFREY RICHELSON: The information that will be collected as a result of this would involve information that would then be used to estimate the yield of the warheads, the accuracy of the missile and the warheads, and the range of the missile, and the number of warheads that the missile carries.

FRANCIS: But the information is only as good as the analysis. And some say analysis is our Achilles heel.

GEN. GEORGE KEEGAN: The few who are competent to analyze are swamped. They're drowning. We're not longer training Ph.D.s in the thousands, as we did in the '50s.

FRANCIS: William Colby disagrees.

COLBY: There is absolutely no chance that the Soviets could develop a strategic threat against us without our foreknowledge.

FRANCIS: And our abilities are improving. Last year a shuttle crew tested an experimental radar which may soon fill the greatest gap remaining in our spy technology: the ability to see through clouds and darkness. The radar was aimed at Mount Shasta in California. After three nighttime orbits of the shuttle, the radar signals were fed into a computer, which produced this three-dimensional picture of the mountain, in very all.

There are verification blind spots, like chemical weapons, small cruise missiles, and multiple launchers. But overall, we can count most ICBMs, find a majority of their submarines, and detect all but the smallest nuclear explosions, making arms control treaties easier to conclude.